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EDITED BY

WILLIAM COLE, Assoc.L.S., F.E.S.,

Honorary Secretary and Curator.

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Contents.

PAGE.

~~The Coast Flora of Essex. By J. C. Shenstone, F.L.S. .. .. 129~~

~~The Fossil Horse of Bishop's Stortford, with Remarks on the Fossil Horses of Europe. By E. T. Newton, F.R.S., F.G.S. .. .. 132~~

~~Report on the Lichens of Epping Forest (First Paper). By Robert Paulson, F.R.M.S., and Percy G. Thompson .. .. 136~~

Dr. Benjamin Allen (1663-1738), of Braintree: a forgotten Essex Naturalist. By Miller Christy, F.L.S. (*with a Plate and Four Illustrations*). 145

~~The Essex Field Club: Reports of Meeting .. .. .. 175~~

~~Notes—Original and Selected .. .. .. 191~~

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Opegrapha atra, Pers.

On trunk of hornbeam, Theydon Lane.

var. *hapalea*, Ach. On trunk of hornbeam, York hill; near Debden Green; Loughton Camp; and Woodberrie Hill; fertile.

Tribe—PYRENOCARPEI.

Verrucaria gemmata, Ach.

On trunk of beach, Great Monk Wood; near Debden Green; York Hill; fertile.

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DR. BENJ. ALLEN (1663-1738), OF BRAINTREE:
A FORGOTTEN ESSEX NATURALIST.

By MILLER CHRISTY, F.L.S.

(Read 23rd May 1908.)

DURING the closing years of the Seventeenth Century and the opening years of the Eighteenth, the little Essex town of Braintree (which has, even now, a population of little over five thousand souls and had then, in all probability, less than three thousand) was more important, as a centre for the active study of Natural Science, than any other town of equal size in Britain. This pre-eminence was due to the residence in the town, or its immediate vicinity, of three naturalists of high repute, including the most famous then living in this country, if not in Europe.

First and foremost in this trio was the learned and illustrious John Ray (1627-1705), the Father of Modern Natural Science. Ray was born at Black Notley, two miles south from the town, probably on the 27th November 1627, his father being one Roger Ray, a smith by trade. The son was educated at Braintree Grammar School and at Catherine Hall, Cambridge, and soon became eminent as a naturalist. In March 1679, his mother, Elizabeth Ray, died at "Dewlands" (fig. 1), a house he had built for her at Black Notley some years previously. In the following June, Ray (then in his fifty-second year) retired to Dewlands, where he lived the remaining twenty-six years of his life. It was during these later years that he wrote those many valuable works which laid the foundations of Natural Science as we know it to-day and won for him a great and lasting reputation. Ray died at Dewlands on 17th January 1704-5. Both he and his work are too well known to require lengthy notice here.[1]

The second of the trio was Samuel Dale (1659?-1738), physician and apothecary, of Braintree. Dale is said to have been a son of North Dale, of Whitechapel, silk-throwster, but is reported to have been born at Braintree. In 1674, he was apprenticed to an apothecary in London, for eight years. By 1686 (four years after the end of his apprenticeship, and in his twenty-seventh year or thereabouts), he was already practising at Braintree, where he lived for the rest of his life. He was well known in his day as a naturalist, especially as a botanist. His tastes in this direction were acquired, no doubt, from Ray, whose disciple, close friend, neighbour, and executor he was. He was also a valued correspondent of Sir Hans Sloane and other leading London botanists of the period, as well as a contributor to the *Philosophical Transactions*. His best-known published work is his *History of Harwich and Dovercourt* (1730). He died at Braintree on 6th June 1739, aged about eighty years.[2]

The third member of the trio in question was Dr. Benjamin Allen (1663-1738), of Braintree, the subject of this paper. Though of lesser eminence than either of the other two, he was an excellent naturalist, as well as a skilled physician, and the extent to which his name has been forgotten is entirely undeserved. He appears to have been unknown to the compilers of all our biographical dictionaries. Even the great *Dictionary of National Biography* does not notice him. The only published information concerning him and his life's work is contained in a brief note by our Past-President, Mr. E. A. Fitch, published by the Club eighteen years ago.[3] In short, for all practical purposes, Benjamin Allen is completely forgotten. Yet he is of interest to us, if only as a friend and neighbour of the illustrious

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[1] "Dewlands' stood, just as Ray built it, to our own day, and was visited by the Club on 23rd June 1898 (see *Essex Naturalist*, x, pp. 402-404 : 1898). Unfortunately, the house was completely destroyed by fire on 19th September 1900 (see *Essex Naturalist*, xi, pp 331-333 : 1900). So far as I have been able to ascertain, no photograph of the house was ever taken. If any of my readers should chance to know of the existence of any photograph, I shall be particularly glad to hear of it. The accompanying view of the house (the only one which exists so far as I know) is copied from Lankester's *Correspondence of John Ray* (Ray Soc., 1848).

[2] A life of him, by Professor G. S. Boulger, with portrait, appeared in *Journ. of Botany* xxi, pp. 193-197 and 225-231 (1883).

[3] *Essex Nat.*, iv., pp. 192-193 1890). I am indebted to Mr Fitch for kind help herein.

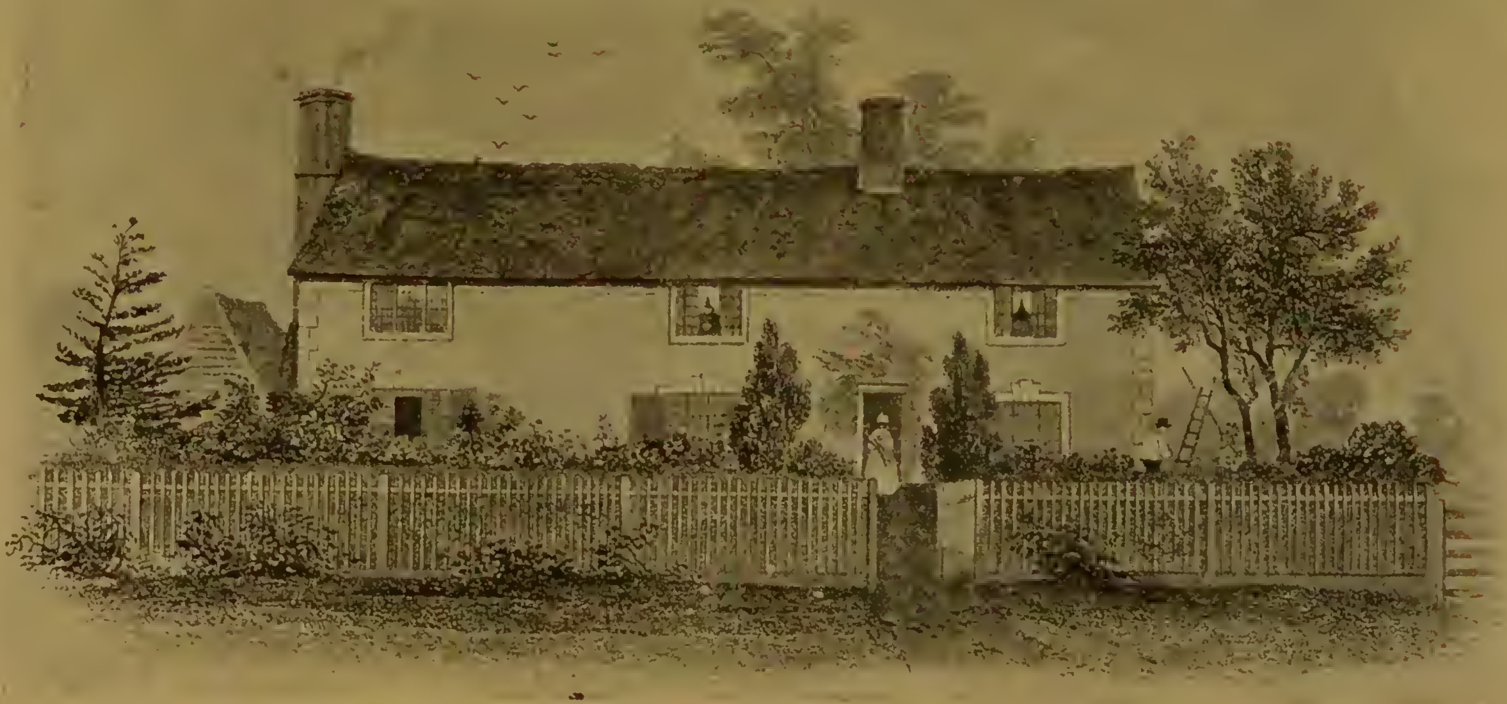

FIG. 1.—VIEW OF DEWLANDS, RAY'S HOME AT BLACK NOTLEY (DESTROYED BY FIRE, 1900).

Ray. He has, however, a strong claim to our recollection on his own account, as an observant and intelligent working naturalist; and my object in compiling this brief life of him is to rescue his memory from oblivion. It would have been impossible for me to have done what I have done without the kind assistance of our member, the Rev. J. W. Kenworthy, vicar of Braintree,[1] who is the fortunate possessor of Allen's "Common-Place Book"—a large volume, full of interesting memoranda on all sorts of subjects (chiefly medical, scientific, and personal).[2] It will be referred to many times in what follows.

Dr. Benjamin Allen, of Braintree, was a son of Dr. Benjamin Allen, a physician, apparently of London.[3] The younger man was born, however, in Somersetshire,[4] though the exact place and date of his birth have not been ascertained. It must have been in the year 1663; for, when he died, in 1738, he was described[5] as aged seventy-five. He appears to have had some connection with the County of Essex, and especially with the parish of Black Notley, where ultimately he was buried, but the exact nature of this connection is not clear. Not improbably, he belonged to the family of Allen or Alleyn, Baronets (cr. 1629), which was prominent at Thaxted, Hatfield Peverel, and elsewhere in Essex for a long period. At all events, Allen seems to have been on terms of some intimacy with Sir George Alleyn (16—?-1702, fifth Baronet), of Little Leighs; Sir Clopton Alleyn (16—?-1726, sixth Baronet), also of Little Leighs; Mrs. Allen or Alleyn, of Black Notley; and other members of the family.[6]

In due course, Allen was sent to St. Paul's School, where, as he says,[7] "Dr. Gale [was] my Maister."[8] Allen was probably proud of the fact that he was a pupil of this eminent man—one of the most famous "High Masters" of this well-known school—for he refers to it several times. Gale was something more than an eminent scholar and schoolmaster; for he was an early Fellow of the Royal Society (elected 1677). He took an active part in the affairs of the Society and presented many curiosities to its museum. He sat also on the Council and acted, from 1685 to 1687, as honorary secretary. Without doubt, Allen had good cause to remember his old master with gratitude; for one may infer that Allen was indebted to him for his interest in the study of Natural Science.

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[1] Mr. Kenworthy has resigned since this was written

[2] Mr Kenworthy purchased the book for a substantial sum on the 8th November 1887, from the late Mr Golding, of Colchester.

[3] A certain Benjamin Allen (possibly Allen's father) took the degree of B.A. at Exeter Coll., Oxford, on 21st June 1660 (see *Cat. of Graduates Univ. of Oxford* p. 9 : 1851)

[4] This county was given as that of his birth when he entered at Cambridge, as I am informed by the Rev. T. C. Fitzpatrick, the President of Queen's College.

[5] On his tomb at Black Notley.

[6] See various memoranda in the Common-Place Book.

[7] Common-Place Book, pp. 200 and 202. Hereafter, wherever a reference to a page or pages is given, it must be understood to refer to this book.

[8] The Rev. Thomas Gale (1635?-1702), a son of Christopher Gale, of Scrutton, Yorkshire, was educated at Westminster School and Trinity College, Cambridge. A very eminent scholar, he held the Professorship of Greek at Cambridge from 1666 to 1672, when he resigned on his appointment to the High Mastership of St. Paul's School, London. This position he held with ever-increasing repute for twenty five years, resigning in 1697, on his appointment as Dean of York. He died at York in 1702 and lies buried in the Cathedral there.

In due time, Allen proceeded to Cambridge, where, on 20th April 1681, he was admitted a pensioner at Queen's College. Mr. Bramston was his tutor.[1] Here, even thus early, he engaged in the study of Natural Science; for he himself tells us that his work on *The Chalybeat and Purging Waters of England*, published in 1699, was largely written while still an undergraduate.

At Queen's, on 15th April 1688, when in his twenty-fourth year, Allen took his degree as a Bachelor of Medicine,[2] but he never proceeded to that of Doctor of Medicine. Two years before this, however, he had commenced to practise on his own account, either at Cambridge or at Braintree; for he refers several times (pp. 6, 115, and 117) to a "Widow Robinson," of whom he says "[She] was the first patient I had and I cured her, 1686." This was when he was but twenty-two years old.

Of the early years of Allen's professional life, subsequent to taking his degree at Cambridge in 1688, we know practically nothing—not even where they were spent. The many entries in the "Common Place Book" refer chiefly to the events of later years, after 1700, and throw no light upon the point. Possibly he acted as assistant, either to his father, Dr. Benjamin Allen, in London, or to Dr. Joshua Draper, of Braintree, whose daughter he afterwards married.

It is clear, at all events, that Allen had established himself in practice at Braintree some time before 1692; for Ray, writing in that year, speaks of him[3] as "our principal physician at

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[1] For this and other information, derived from the Registers of the College, I am indebted to the kindness of the President. There is no record to show when Allen left the College.

[2] See *Graduati Cantabrigienses, 1659-1787*, p. 5 (1787).

[3] In a letter to Sir Tancred Robinson dated 8th July 1692 (see *Correspondence of John Ray*, pp. 252-253: Ray Soc., 1848).

Braintree, Mr. Allen, my acquaintance and friend." Probably he had taken over the practice of Dr. Joshua Draper, M.B., of Braintree, who died 6th September 1686.[1] Allen lived in what is known as "The Great House" (fig. 2), overlooking the Great Square.[2] This house—then, probably, the largest and best in the town—is of the Tudor Period, but the old work is concealed by a solemn, Georgian, red-brick front—added, perhaps, by Allen himself.[3]

It was at Braintree, doubtless, that Allen married Katherine, a daughter of Dr. Joshua Draper, above mentioned, and Katherine his wife. The date of the marriage is not known, but was probably in or about 1695, when Allen was about thirty-one years of age and his wife about twenty-four[4], as the first child was born in 1697. This child was a son, who was named Thomas, and the entry of his baptism in the Braintree Registers is of interest as showing further that Allen was on terms of some intimacy with Ray's family :—

> 1697, August the 12.—Thomas, the son of Benjamin Allen and Katherine his wife, was baptised : Mr. Thomas Draper[5] and Mr. Robert Middleton, Clerk[6], were Godfathers and Mrs. Ray [was] Godmother.

Of the intimacy between Ray and Allen, there is much evidence. It had commenced, as has been seen above, before 1692, when Allen had discovered some winged glow-worms (*Lampyris noctiluca*). In this discovery, Ray evinced much interest :—

> I doubt not [he wrote to Sir Tancred Robinson[7]] but that they are everywhere to be found, being nothing else but a kind of long-bodied beetle. . . . The reason why I mention this is because this gentleman [Allen], meeting with this beetle and finding by strict observation that the body of it answered exactly in figure to that of a creeping glow-worm, suspected it to be the male glow-worm ; and, having some creeping glow-worms by him, [he] put this animal into a box

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[1] See the Braintree Registers, wherein he is described as a "Doctor of Viseck."

[2] For my knowledge of this fact, I am indebted to Mr. Herbert J. Cunnington, of Braintree.

[3] Since the photograph here reproduced was taken, shop windows have been inserted on the ground floor, changing still further the appearance of the house.

[4] The Braintree Registers show that she was born on 19 July 1671. There must be some mistake as to Mr. Fitch's statement (*Essex Nat.*, iv., p. 193) that Allen married in 1680 ; for he can have been no more than sixteen years of age at the time and no children were born of the marriage until seventeen years later.

[5] This was not Allen's father-in-law of that name, but his son, who was born (as the Registers show) on 22nd March 1672. Allen speaks of him (p. 202) as "my wive's brother, Mr. Thomas Draper, [who] lived in Gracechurch Street, London." Clearly, he also was a physician, for Allen relates (p. 119) how he treated a hypochondriacal case. He seems (p. 203) to have died on or about 7th November 1705.

[6] The Rev. Robert Middleton, A.M., was vicar of Braintree (from 9th July 1678 to early in 1690 (see Newcourt's *Repertorium*, ii., p. 90 : 1710).

[7] In a letter dated 8th July 1692 (see *ante*, p. 149).

> with one of them; which, after some short time, coupled with it; but, because the box whereinto they were put was small and shut, to confirm the experiment, he put a creeping glow-worm into an open box and a flying one to her; which, fluttering with his wings, did presently, in his [*i.e.*, Allen's] sight, march to the creeping one & couple with her. How this can accord with what Mr. Waller delivers of the winged *Cicindelæ*—that they are both male and female and couple together—I see not.

Nearly twenty years later, Allen published his own account of this observation, appended (curiously enough) to one of his works on Mineral Waters.[1] He did so, he says, in pursuance of a promise he had made to Ray before the latter's death. Ray had inferred, rightly enough, from Allen's observation, that the winged glow-worms were the males and the wingless the females.[2]

> In confirmation of this [says Allen], I have observ'd them several times, in several years, coupling; both coming to some females I had in an open box and to some I kept in a grass-plat before my garden, and also in the lanes and fields, where I aliht[3] to observe when I suspected them coupled by the obscurity of their liht. In the year 1692, I put one into my box and it coupled presently, tho' the box was open; which male drop't on the table near it; and, the same year, I found them coupled in my grass-plat and, several summers since, in the roads and fields. And, one time, I found this flying male a little luminous.
>
> And, therefore, I think it clear, having had several flying ones which never coupled among themselves. . . .
>
> [The eyes of the males, he adds,] are almost all that is seen of the head and placed underneath. The light of the female is for the male to find them by.

About the same time (1692), Allen discovered a Death-watch Beetle (*Anobium tessellatum*), of which he says[4]:—"I showed it to Mr. Ray while it was yet alive and did beat." Again, on the 29th June 1693, Allen captured a specimen of some strange insect, which Ray has recorded.[5]

In January 1697-8, however, events occurred which, for a time at least, slightly estranged the two men. Allen, writing of dreams, says (p. 203):—

> I have had notice [by means of dreams] of several extraordinary patients' deaths.
>
> A little before Mary Ray [Ray's daughter] dy'd,[6] about a fortnight or three weeks or less, I dreamt, in a morning, as before, I was walking with Mr. Ray down Rain Lane[7] and, seeing an apple-tree, [I] pickt one [*i.e.*, an apple] before

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[1] *Nat. Hist. of Mineral Waters*, p. 101-104 (1711).

[2] Allen, in his Common-Place Book, referring to Ray's inference, says (p. 258) that "Mr. Ray desired me to back it with my demonstration."

[3] Alighted from his horse, he means

[4] *Philos. Trans.* xx, p. 376 (1699).

[5] *Hist. Insectorum*, p. 167 (1710).

[6] She died in January 1697-8.

[7] The lane from Braintree to Rayne—part of the old Roman Road known as "Stane Street."

it was ripe; and, immediately, I saw Mr. Ray on the other side of the hedge, in the field, and no stile [for me] to get over to him; so we walkt and talkt, but [I] got no more to him; and so it fell out upon her death; [for] a distrust came by Mrs. Ray's charging me that I did not sufficiently press the means I had sent her [for the cure of her daughter Mary; but] that was her fault, for I had sent her a preparation of steel, which would have cured her and prevented her death. So [our] intimacy [was] discontinued, though we never fell out, but [he] invited me to his hous. But, without difference, we were at a distance.

That Ray really was not entirely satisfied with Allen's treatment of his daughter seems clear from the tenour of a letter he wrote from Black Notley to Sir Hans Sloane, the great physician[1]:—

Black Notley, 22 January 1697[-8].

I have now another case to beg your advice in. My daughter Mary, one of the twins, after long trouble with the chlorosis, is fallen into the jaundice, all the symptoms whereof she hath in a high manner. We have made use of our neighbouring physician, Mr. Allen, who first gave her some powders; which, taking no effect, he gave her, I suppose, Riverius his medicine for the jaundice, which she hath now taken five days, half a quarter of a pint thrice a day; which, notwithstanding, all the symptoms continue, or rather increase, and she grows faint and feeble. . . . Mr. Allen advises the letting of her blood, because, upon blowing of her nose, a little tincture of blood sometimes appears.

Sir Hans promptly sent his opinion; but, the day after it arrived, the girl became delirious and she died three days later.

The coolness between the two friends was removed (to some extent, at least) before Ray's death, seven years later; for Allen, writing of Ray about 1698, alludes to him as "that most extraordinary naturalist and universally great man and my honoured friend"[2]; while Ray, writing of Allen about 1700, refers to him twice as "eruditissimus et ingeniosissimus amicus noster D. Benjamin Allen, Brantriæ, in Essexia, medicinam faciens."[3] Further, in the end, the two were buried almost side by side, as will be seen.

Not a few entries in the Common-place Book afford evidence of the intercourse between Ray and Allen. Thus, in one place (p. 9), Allen records that "The herb call'd Star of the Earth in K. James 2nd's Receipt is the Coronopus; for it was sent to Mr. Ray to know the plant."[4] In another place (p. 237), we find a reference to a butterfly (apparently *Parnassius apollo*) which was "taken on the Alps by Mr. Ray." Elsewhere (p. 362), discussing the best way to make ink, Allen says: "Mr. Ray's receipt puts in too much copperas and rather too little gum" Other similar passages are noticed hereafter. Again, Allen, writing of the method used by the great physician van Helmont for curing gout, says[1]:—

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[1] Lankester's *Correspondence of John Ray*, pp. 311 312 (Ray Soc., 1848).

[2] *Chalybeat and Purging Waters*, p. 49 (1699).

[3] *Hist. Insectorum*, pp. ix and 80 (1710).

[4] In 1687, Sir Robert Gourdon communicated to the Royal Society, by command of King James II., a recipe by means of which the King's hounds were said to have been cured of madness after being bitten by a mad dog (see *Philos Trans.*, xvi, p. 298; 1688). The chief ingredient was a certain plant, spoken of as the "Star of the Earth," a badly-preserved specimen of which was sent to the Society. There being doubt as to the species, it was sent to Ray, who identified it (deceived, perhaps, by its bad condition) as the "*Sesamoides*

> Mr. Ray inform'd me he was assur'd by his son, the younger Helmont,[2] when he was desir'd to come to Leez to assist [*i.e.*, attend] the late Earl of Warwick, to find the true *Hellebour niger verus*, to which Helmont, who was brovght by the great Mr. Boyl, in that disease, had advis'd him, as what his father us'd, and nothing else, in that disease, with which he was often afflicted.[3]

Nevertheless, it seems clear that the friendship between Ray and Allen was at all times far less intimate than that between Ray and Dale, for Ray appointed Dale executor under his will.

As for Dale and Allen—men of the same profession, almost of the same age, and living in the same small town—they must have known each other well, but evidence as to the extent of the friendship between them is scanty. Allen, writing in 1711, speaks[4] of "a journey to Harwich to see marine plants"—a journey made no doubt in company with Dale, who must have visited Harwich many times to collect the material necessary for his exhaustive work on the history and natural productions of

---

Salamanticum Magnum, or Spanish Catch-fly (*Silene otites*). Later, however Ray came to the conclusion that the wrong plant had been sent to him and that that which had really cured the King's hounds, under the name of the "Star of the Earth," was the plant now known as the Buck's-horn Plantain, *Plantago coronopus* (see *Philos. Trans.*, xl. p 453: 1738). The Rev. Thomas Stuart, of Bury St Edmunds, who investigated the question many years later, says (*op. cit.*, p. 450) that he had conferred with his friend Samuel Dale, of Braintree, and had referred to works in Dale's "well-furnished botanic library" Both had come to the conclusion (he says) that the plant in question was really that last mentioned. Allen had, no doubt, heard of the matter from and discussed it with both Ray and Dale. Mr. J. C. Shenstone informs me that one species of the genus (*P. major*) was much used, down to comparatively-recent times, as an astringent and styptic, and that it is referred to as possessing these properties by Shakespear, Shenstone the poet, and other old writers. It is probable, therefore, that *P. coronopus* possesses the same properties.

[1] *Nat. Hist. of Mineral Waters*, Epist Pref., p. [vii] (1711).

[2] J B. van Helmont (1577-1644) was born at Brussels His son, F. M van Helmont (1618 1699), was also an eminent physician and chemist.

[3] So far as one can make out from Allen's very confused statement, it was the younger Van Helmont who, at the instance of the Hon. Robert Boyle, attended Charles fourth Earl of Warwick, at Leez, when he was ill with the gout, from which he died in 1673, though nothing relating to the matter appears in Miss C Fell Smith's *Mary Rich, Countess of Warwick* (1901), wherein much is stated in reference to the earl's illness; further that van Helmont found growing there the *Helleborus niger*. that, either whilst at Leez or afterwards, he had told Ray that this was the plant his father (van Helmont. senior) had always solely used in treating the gout, with which he himself had been often troubled; and that Ray had afterwards repeated these facts to Allen. Mr J. C. Shenstone has been kind enough to inform me that all the Hellebores were well known and used formerly as purgatives and emmenagogues; but that, in recent days, they have fallen out of use, owing to the violence of their action. The mildest in action was *H. niger*. the plant here mentioned, which remained in use almost to our own day

[4] *Mineral Waters*, p. 9 (1711).

the place.[1] It was on this visit, doubtless, that Allen obtained the information which enabled him to state[2] that

> the harbour or channel there is artificial and of no old date, the current having been formerly on the other side of Languard Fort, which then stood in Essex.

The two were still friendly more than twenty years later, when both were old men ; for, in Allen's Common-place Book, we find (pp. 194 and 275-276) some " Observations relating to Ancient Monuments, chiefly collected from Mr. Dale's Relation of his Journey to the Bath, in [May] 1731 ; w^{ch} I wrote from his mouth, Jan. 1731-2." It appears that Dale, leaving London by way of " Pickadilly " and Knightsbridge, went *via* Marlborough (where he saw the " greyweathers ") and Avebury (where he saw the stone circles) to Bath. Among places he visited in the vicinity of that City were Stanton-Drew, Wells, Wookey Hole (which he describes), and Glastonbury. On the return, he passed through Yeovil, Ilchester, Cranborne, Winchester, Salisbury (whence he saw Old Sarum and Stonehenge), Staines, Egham, "and so home," as Allen says, quite in the style of Pepys.

That Allen at least knew Dr. Derham, of Upminster, Ray's friend and biographer, appears from his Common-place Book, in which he mentions (p. 216) something which "Mr. Derham told me."

It was, apparently, just before the close of the century that Allen (now about thirty-five years of age) began to come into notice as a naturalist, through contributing several papers to the publications of the Royal Society. As he was never a Fellow of the Society, he must have owed his introduction to someone who was ; and it is easy to surmise that his introducer was either his old master Dr. Gale or his neighbour Ray.

Allen's first paper, published in 1698,[3] was "On the Manner of Generation of Eels "—a subject which had been disputed, as he says, since the days of Aristotle.[4] Allen asserted that the two sexes were separate (a fact which had been disputed) ; also that their breeding had been unobserved previously because they bred in February—a time when very few were taken, except in ponds, where none breed. He adds that, two years previously, he had taken two eels from a mill-pond, and had dissected them, finding in one an egg and in the other six young, apparently in the great intestine. He says also that he had searched salt-water eels, but had found nothing similar in them, though he believed they were of the same species. Allen's diction is confused and, to a certain extent, contradictory, as Dale soon pointed out.[1] He did so, however, in a manner entirely friendly to Allen, desiring merely, he explains, to "excite that ingenious person to perfect his discoveries and, by ocular demonstrations, to convince the curious of the truth and certainty of his observations." Many years later, Allen acted on Dale's advice, as we shall see hereafter.

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[1] *Hist. of Harwich and Dovercourt* (1730).

[2] *Chalybeat and Purging Waters*, p. 107 (1699).

[3] *Philos. Trans.*, xix., pp. 664-666 (1698).

[4] It was, of course, only during the last few years that the mystery surrounding the breeding of eels was solved by the discovery that they breed in very deep sea-water (see *Essex Nat.*, ix., p. 261 : 1896).

To the foregoing, Allen appends, without separate heading, an observation (relating to something which had been published shortly before) on the Malarial Agues, then so common in Essex:—

> I have [he says] observed Agues—Tertian, I mean—to come when the moon has come to an angle ; as, in one or two [cases], when the moon was setting ; and the succeeding fits, when she culminated ; the third fit, at a rising moon ; and so on.

In the following year (1699), Allen contributed two papers. The first was "An Account of the Scarabæus Galeatus Pulsator or Death-Watch."[2] He says that, in August 1695, he took two of the beetles, being guided to them by the noise they made, and that he kept them above four days for observation. He describes the insect minutely, as well as its habit of beating, but ridicules the common idea of its noise foretelling a death ; and he illustrates his description by means of three figures, one of them much enlarged, being "drawn with the help of a microscope."

In a second paper, published at the same time, Allen gave "An Account of the Gall-Bee."[3] He had observed that some Aleppo Galls which he had still contained a small bee "resembling the small sort of our wild bees which [nest in the] earth," and he discusses the question how these bees obtained air whilst still confined in the gall. He concludes that they were "maintained by a subtiller air that pervades more minute pores [than atmospheric air]."

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[1] *Philos. Trans.*, xx., pp 92-97 (1699).
[2] *Philos. Trans.*, xx . pp. 376-378 (1699).
[3] *Philos. Trans.*. xx.. p. 375 (1699).

After this, Allen seems to have made no further communications to the Royal Society for some twenty years; but, in the same year (1699), he published his first scientific work entitled: The / Natural History / of the / Chalybeat and Purging Waters / of / England, / with their particular / Essays and Uses; / among which are treated at large / the / Apoplexy and Hypochondriacism: / To which are added / Some Observations on the Bath / Waters in Somersetshire. / Dedicated to the Right Honourable the / Earl of Manchester. / By Benjamin Allen, Med.Bac. / London: / Printed and Sold by S. Smith and B. Walford, at the Prince's Arms in St. Paul's Churchyard, 1699.

The book appeared under good auspices, for it was issued by Messrs. Smith and Walford, "printers" (that is, publishers) to the Royal Society. The Earl of Manchester,[1] to whom it was dedicated, seems to have been Allen's patron and employer in some way, as will be seen hereafter. Allen's book was practically the earliest systematic treatise on the medicinal waters of England, and is of special local interest, inasmuch as it describes no fewer than eight Essex springs. Though as valuable as any work of the kind and period could well be, it was a very poor production from the literary point of view. The punctuation is extremely bad and the diction often so confused as to be incomprehensible. This was due, no doubt, to the fact (of which Allen tells us in his preface) that it was written largely whilst he was a young undergraduate at Cambridge. That Allen himself was well aware of its imperfection is clear from his apologetic explanation[2] that he was

> obliged to excuse the whole discoursive part of the book, and particularly the impertinences and imperfections of it, being only casual and written *raptim*; and much of it [was] never read over by me till printed and [my remarks] were designed but as hints . . .; so that the great precipitation, with the impediments, made much or all of it so far from being exact as to be thoughtless almost.

Elsewhere he says[3]:—

> My account of the reason of the operation of the waters is so wild and imperfect as to be nauseous to myself and [to] afford me no other satisfaction than that I have hinted what ought to be done [in the way of investigation].

Explaining "why I publish anything so loose and inaccurate," he continues[4]:—

> I can only say that the discourses (which were written off hand) had not the leisure for thought that the experimental part had (which was, in good measure,

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[1] Charles (Montagu), 4th Earl and first Duke of Manchester, an eminent diplomatist, was born in 1662; succeeded to the earldom in 1683; was created a duke in 1719; and died in 1722.

[2] *Op. cit.*, Preface, p. [b. 7, obv.]

[3] *Op. cit.*, Preface, p. [a. 2, obv.]

[4] *Op. cit.*, Preface, p. [b. 7, rev.]

> done before I left Cambridge and so before I enter'd on practise): neither had I a prospect of an opportunity to perfect. And all my thoughts I offer no otherwise than with submission to better judgment to correct.

A very poor apology, surely, for publishing a book written in so slovenly a manner!

It was, no doubt, because Allen recognized the imperfections of his book that, twelve years later, in 1711, he brought out a second edition of it, entitled :—

> The / Natural History / of the / Mineral-Waters / of / Great Britain ; / to which are added some / Observations / of the / Cicindela or Glow-Worm. / By / Benjamin Allen, Med. Bac. / London: / Printed for the Author and Sold by William Innys, / at the Prince's Arms, in St. Paul's Church-/ Yard. 1711.

This book was not a mere second edition of the first. It was, indeed, practically a new work, completely re-written and re-arranged. Consequently, it was, as a book, far superior to its author's first very-muddled effort. It was, however, of somewhat less local interest, inasmuch as it describes only five Essex mineral springs. Allen's observations upon the glow-worm, so inconsequently thrown in at the end of the book, were inserted, he says,[1] "as discharge of a promise made" to Ray. This book also was dedicated to the Earl of Manchester, though it contained a long "Epistle Dedicatory," addressed to Dr. Martin Lister (Physician to the Queen) and Dr. Tancred Robinson, each of whom wrote Allen a brief commendatory letter, which he prints.

Of the middle period of Allen's life, from about 1700 to about 1720, we know singularly little. We have seen that, in 1711, he published the work above mentioned; but this appears to have been his only contribution to the literature of science during the period in question, for his contributions to the *Philosophical Transactions* had ceased for the time. Probably, during these years, professional cares absorbed the whole of his energies, leaving him neither time nor opportunity for the making and recording of observations in Natural Science. Later, however, as he approached old age (and had, perhaps, allowed his professional duties to pass, to some extent, into the hands of an assistant), he commenced, as will be seen, to devote more and more of his time and thoughts to scientific observations.

This brings us, then, to the year 1723, in which apparently

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[1] *Mineral Waters*, p. 102. The observations themselves have been noticed already (see *ante*, pp. 150-151).

Allen (now in or about his sixtieth year) began to write his "Common-Place Book," already alluded to many times.

Allen's Common-Place Book is a large post-folio volume (15ins. by 9½ins. trimmed), substantially bound in contemporary vellum and containing [5] + 362 pages, nearly all closely written upon, though a few are blank. The title-page is inscribed :—

> Conclusions in several Subjects (as Anatomy, Medicin, Nature, Problems of the State, and Accidents of the World), containing the Discoverys in Summ upon the Prosecutions and Inqnirys made ; By Benjamin Allen, Batchellour of Physick or Medicin, formerly of Queen's Colledge, in Cambridge : Anno 1723.

Below are some moral reflections on the value of industry. On the back of the title-page is an index to the subjects discussed.

Among the subjects dealt with in Allen's notes, that of medicine naturally takes the leading place and occupies most space. I deal with it first, though admitting my incompetence to treat it anything like adequately. I suggest that Allen's book is worth the serious attention of some student of the history of medicine in this country.

At the very commencement, we meet with nearly fifty closely-written pages (1-47) filled with very detailed notes on various diseases, the remedies he had tried for the cure of them, and the results he secured thereby, together with a special index. Closely following this come more than fifty pages (51-102) devoted to "An Idæa of a Rational Anatomy." In it, Allen takes the various parts of the body—the lungs, the heart, the brain, the liver, the kidneys, the eye, the generative organs, &c.—and discusses each in great detail. The treatise looks much as though it were the first draft of an elaborate original work on the subject, intended ultimately for publication. Possibly, however, it is no more than a compilation from works previously published. In any case, it appears to be unfinished. Later, we have over sixty pages (113-174) devoted to "More Rare and Notable Medicinal Observations," detailing the results of his treatment of a great many particular cases. These notes and the earlier ones of the same kind make it perfectly clear that Allen was an exceedingly careful and observant physician—far more so, probably, than the average country practitioner of his day. Yet some of the remedies he used seem to us now to be exceedingly childish. Thus, he tells us (p. 114) how "Mr.

Middleton, our Minister,[1] was cur'd of a dropsy in ye cod or scrotum by eating gentian every morning," and of how, in 1708, "the chair-maker of Witham" was cured of dropsy by drinking beer in which mustard-seed had been steeped. Elsewhere, we have—

> A Prescription or Specifick for curing Distraction (both Melancholy, Frenzy, and Mania simple), from my Father Allen's Practis; who cured generally and cured more and [more] perfectly than any man or all that I ever heard of in England, . . . :—A tincture of red poppy flowers or cake, two ounces or three, in a quart and pint of water, acuated with Ol. Vitrioli; boyle a little in a pipkin and infuse, covered, a night and a day; add half-a-pint of cooling oyle of the head of red roses and nymphæa, with vinegar of roses and poppies, all mixt. [This produces] gentle and frequent purging, rarely a vomit; but it is good if the person is not so bad as to refuse drinking gruel and [he should] avoid any beer if possible. Be sure [the mixture is] strong. [Practise] bleeding, especially at the full moon and three days before, and repeat as rage requires.

There is much more of the same kind.

Another thing which these notes bring into prominence was the disgusting origin and nature of some of the remedies approved by the medical faculty in Allen's day and used by him. For instance, tinctures made from the dungs of various animals seem to have been in common use as medicine. Even the great Ray seems to have taken nasty physic of this kind; for, says Allen in one place (p. 115):—"Mr. Ray was cured of [a jaundys] by [taking] an infusion of stone-hors dung,[2] as I remember, in beer." That Ray really believed he had been cured by this decoction is clear from his own words; for, writing on 22nd January 1797 to Sir Hans Sloane, to ask his advice in regard to an attack of jaundice from which his daughter was suffering, he says[3]:—

> I myself was cured of that disease by an infusion of stone-horse dung steeped in ale for a night, with a little saffron added and in the morning strained, and the liquor sweetened with a little sugar. I took about half-a-pint at a time and was cured perfectly with twice taking, as I remember. I pray you give us your judgment of this medicine.

In another place (p. 117), Allen says:—

> Mrs. Moses Stow told me of a cure performed [on a consumptive patient without a cough] by steeping near a pint of sheep's dung every night in a pint of milk, and the liquor next morning, being prest and settled (being about half a pint), is to be drank all in the morning.

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[1] See *ante*, p. 150.

[2] The dung of a stallion or "entire" horse.

[3] Lankester's *Correspondence of John Ray*, p. 311 (1848).

The wording of these two passages shows that Allen himself had not, in either case, prescribed the remedy in question, but what he says of the way he cured his first patient (the widow Robinson, already mentioned[1]), in 1686, shows that he himself used these disgusting concoctions. The lady was suffering, he says (pp. 6, 115, and 117), from "A jaundys after an ague, with a vertigo and a yellowish unsound look"; all which he cured by giving her "the common Bitter Drink and peacock's dung in powder in a tincture of peacock's dung." Scarcely less disgusting and even more fantastic was another remedy Allen administered to a Mr. John Clark, who suffered from dropsy and was cured by "taking millepedes," by which Allen means, apparently, wood lice or sow-bugs (Oniscidæ)! He continued to administer this remedy to the end of his life; for he records (p. 174) that, in 1736, he cured Mrs. Ager's daughter by "millepedes or sow-bugs."

Another thing, shown by many entries, was the prevalence of small-pox in Allen's day.

First, we have (p. 2) the recipe ("copied out of a book in my father's study") for "Matthews's Pill" ("the noblest remedy in the Small Pocks"), with the comment: "it never failed my father and I once." Next, we have (p. 42) the recipe for

> A Julep to quench thirst in the Small Pox [or] the Flock Pox; observed to give great relief and comfort to Mrs. Allen, of Black Notly, by my father [-in-law], Dr. Draper:—When Mrs. Alleyn, of Black Notly, lay sick of this pox in London and was extremely afflicted with thirst, her physitian, Dr. King, directed her this julep following:—Take dryed wood sorrell, one handfull; boyle it with the bottom of a white loaf in a quart of water the due time, not too long (that is, let the water have the quality of both sharp[ness] and whiteness); then strain it and soak it in a lemmon sliced and sweeten it with syrup of raspberrys or barberrys; and then let the patient drink of it. She [*i.e.*, Mrs. Alleyn] found much comfort by it, without any prejudice to the pocks.

Among other observations on the small-pox, we have these (p. 122):—

> A child that hath had it in wombe, as part of the mother, will have it again and is not secur'd by that having it, as I know; [for] Patmore's child, who came markt with it into the world, yet had it after. . . . We can't foresee who will have them [*i.e.*, pock-marks] most; for Mary Harris, a gross foggy [?] wench of a body, lusty and humorous, had but fifty in all and my daughter Bette, a lean body and clear of humors, [had them] severely to convulsions.

Some of Allen's notes on the Small-Pox have local interest. Thus, he notes (p. 346) that, in 1711, there was "Small Pocks

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[1] See *ante*, p. 149.

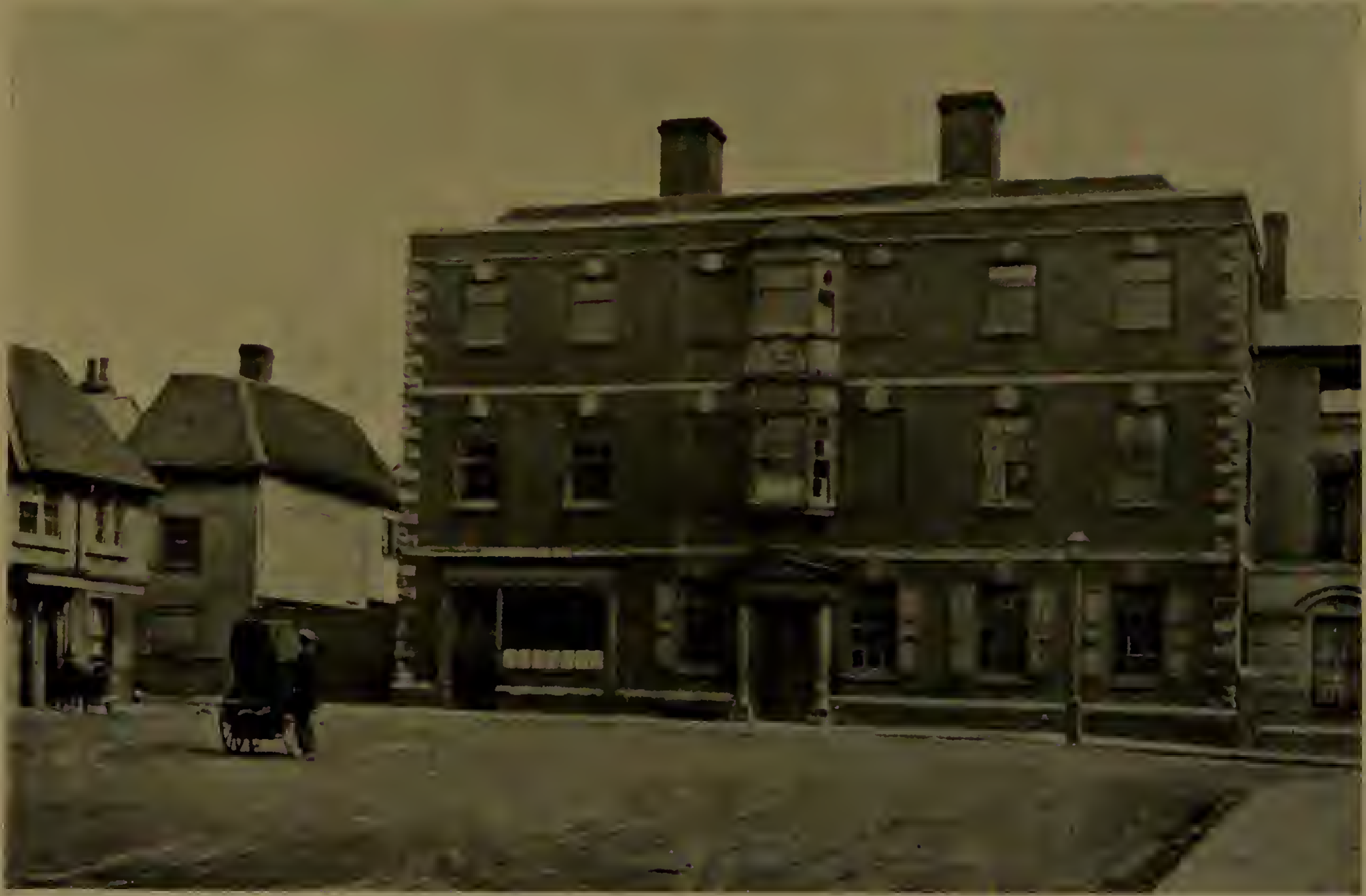

FIG. 2.—THE "GREAT HOUSE," BRAINTREE, IN WHICH DR. BENJAMIN ALLEN LIVED.

[For Fig. 5, see over.]

devoted to astronomy; and many scattered passages in other parts show that Allen had a wide knowledge of this science. He enters many observations, apparently made by himself, on parallax, the height of the moon, auroras, eclipses, and so forth. He has pasted in (facing p. 106) a coloured drawing, made seemingly by himself, showing "The Face of the Moon at the Total Solar Eclipse [on] April 22, 1715," which he evidently observed with much interest. The drawing shows very clearly the red, white, and yellow rays of the Solar Corona.[1] Elsewhere (p. 1), he records his observations on the Solar Eclipses of 1715 and 1724. In a note, written evidently during the last months of his life, he refers (p. 287) to "my collection of almanacks."

Five or six closely-written pages (201-206) bear testimony to Allen's profound belief in dreams and unusual incidents as divine warnings of impending events. He discusses more than exhaustively his reasons for regarding them as such. Some of his dreams he describes in great detail; but they are of the usual ridiculous kind and have no teachings for us, unless it is to avoid too late and too heavy suppers! One such dream, relating to Ray, has been noticed already.[2] Another, relating to his brother-in-law, Dr. Thomas Draper, he dreamed, he says (pp. 202-203), thrice over on three successive nights preceding Dr. Draper's death in November 1705.

In this connection, one of the funniest entries relates to the time when "my daughter Mary was courted by Mr. ——, supposed [to be] a Papist (his sister being a profest one)"! One day, when the supposed Papist was present, Allen's son Benjamin, coming into the room, was seized with sudden illness. After so clear a warning from Heaven, Allen could do no less than dismiss the supposed Papist suitor for his daughter's hand, which he did summarily. The result was that, within two days, young Benjamin appeared to have recovered his health.[3] But the incident was by no means closed. Shortly after, on 30th January 1724, Allen dreamed at length of his son, about whom he was evidently still uneasy. A final and unmistakeable warning came in the following month, when two crossed militia swords, hanging on the wall of the kitchen, fell down suddenly!

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[1] Apparently, however, he believed it to belong to the moon.

[2] See *ante*, p. 151.

[3] The girl, however, never married.

In spite of all this, the oft-warned young man contrived to live till May, when he died.

A few months later, on 7th December 1725, at half-past nine in the morning, an incident which he regarded as a direct interposition of Providence saved Allen's life as he was about to cross the Thames by boat from Lambeth in order to sign the deeds of some houses he had bought from a Mr. Draper. But for this warning, he says (p. 205), he would have

> been drowned in the Thames, in a squall so sudden that, had I gone two boat's lengths from the shore, I could not [have] recovered it, for so several boats were overturned and people drowned. I was in the boat, one boat's length [from the shore, when there came] two flashes of lightening in my face; and the old waterman, seeing it in the north-west, by a north cloud lying along, bid me see it myself: he dare not go. The lightening and my choice of an experienced and observant waterman, that had been in India, &c., many times, were not disposed by me.

Elsewhere, Allen notes twice over (pp. 206 and 346) that Queen Ann died on the day on which an Act against dissenters and another for transporting poor children came into force—evidently cause and effect! He notes also (p. 347) that the execution of the Jacobite Lords, on 24 February 1716, was followed on 6 March by auroras—evidently a sign of heavenly disapproval! Again, he regards the death of 80,000 people at Marseilles through the plague (p. 348) as retribution because Protestants had been "put to the galleys" there shortly before!

To us, as naturalists, no part of Allen's book is of greater interest than that in which he has entered his observations on Natural History. It extends to rather over fifty pages (211-263) and includes several hundred pen sketches of "Insects"—a term to which he gave a much wider application than we do now. There are also many notes (which lack, however, that definiteness which would give them value in the eyes of a modern naturalist), a "Commentary" on the notes, and an "Index to Insects." These notes appear to have been written between the years 1715 and 1730 or thereabouts.

Allen begins by noticing that well-known "insect" the Oyster, of which we find several anatomical drawings and this information :—

> The Brittish are the best of the world, for the Romans sent hither for them against their great feasts; and the best of Brittish is the Pyfleet [obtained] on the coast of Essex, between Colne River and Mersey Isle, in a strait. [Those of] Colne River are good, but not so fine. The next are a small oyster at Wallfleet on

the coast of Essex, likewise near. The shells of all these are clear, like China. . . . The western [Oysters] are great and hard; so are the French, thick, cours-shelled, and unpleasant. At the Isle of Thanet, &c., in the mouth of the Thames, [they are] as big as a colt's-foot. The next good to Essex oisters are [those from] Milton and Shaflleet, in Sussex, I think. They fatten them by laying them in pits on a loamy clay at Fingringo and Rowhedge, in Essex, whence the Colchester Oisters come. The pit is, maybe, better than two feet deep and not larger than two yards wide or three. . . . [These] have the benefit of the washing of the land; and, if overflowed on every full tide, [the oysters] are white. Those that have no fresh water but every spring tide are green finned, and so not liked by the neighbourhood so well as white. . . .

Next follow notes on "Insect Animals within the Earth," "Water Insects" (including water-snails), gnats and dragon-flies (many drawings), "The Common Housed Snail," *Helix aspersa* (with several anatomical drawings, the result of dissections), lepidoptera (141 numbered drawings and many supplementary sketches of larvæ, pupæ, &c.), beetles (50 drawings), lady-birds (9 drawings), earwigs, field bugs, crickets, the great green grasshopper, honey-bees, hornets, flies, spiders (14 drawings), "Harvestmen" (two drawings), "The Land Swift or Eft" (one drawing), the "Water Swift" (one drawing of the animal and two of its anatomy), and the glow-worm, together with remarks on Natural History in general. These notes, if not now of much scientific value, testify to the depth of Allen's interest in what he calls "insects" and to his keen powers of observation. As to the drawings, the memoranda accompanying them leave no doubt whatever that, in the vast majority of cases, they were drawn direct from the creatures themselves and were not copied from any published work.

In regard to the Lepidoptera, Mr. Fitch has been able to identify the species intended to be represented by almost every one of the drawings, nearly one hundred and fifty in number. I reproduce (fig. 3) two pages (pp. 236-237) as fair specimens of the whole. Of the species shown thereon, Mr. Fitch identifies the following :—

No. 119, *Bombyx mori* (the silk-worm—larva, pupa, and imago).
No. 120, *Macroglossa stellatarum*, the Humming-bird Hawk Moth.
No. 121, *Demas coryli* (larvæ)
No. 122, *Parnassius apollo*
No. 123, *Zeuzera æsculi*, the Leopard Moth.
No. 124, *Macroglossa fuciformis*, the Bee Hawk Moth.
No. 125, *Sphinx ligustri*, the Privet Hawk Moth (larva, pupa, and imago).
No. 128, ... ?

The drawings are accompanied by brief descriptive notes, chiefly relating to colour. Data as to the times and places of occurrence of the insects delineated are not common, but are found in some cases. For instance, we are told that *Smerinthus tiliæ* (the Lime Hawk Moth, no. 87) was drawn "from a graph[ic] descr[iption] of Mr. Dale"; that the larvæ of *Demas coryli* (no. 121) were taken, "in Aug. 1729, by my daughter Katherine, on a white filbird" (*i.e.*, filbert): that *Parnassius apollo* (no. 122) was "taken on the Alps by Mr. Ray"[1]; and so on.

Occasionally, too, one meets with notes of some local interest, as, for instance, the statement (p. 235) that the Purple Emperor (*Apatura iris*) had occurred at "Hedingham and Blakemore End [in Wethersfield]." Another such entry of local interest (p. 317) is this:—

> [Oaks] last many hundred years, probably to 1000; for the oak at Hatfield [Broad Oak] that lasted to our Civil War and the coming in of K. Charles 2 was so great at the Conquest as to be mentioned for a bound in Sir C. Barrington's deeds, . . . as "the Great Oak," as Mr. Ously, who read them, assured me.[2]

An observation on a habit of the Peacock, recorded (p. 262) on the authority of Sir Clopton Alleyn, of Black Notley, is as follows:—

> Observing the great and frequent screaming, Sir Clopton went to see, in the Lane, the occasion [and] found the Peacock at an adder. On the adder encircling and holding up his head to spring at him, he [that is, the peacock] screamed and leapt back every time, but danct round it and, getting behind it, peckt his back, and then got off and screamed; but, though call'd off and checkt, would not leave it till he had kill'd it, and then peckt to pull [?pieces] and eat it, and he [that is, Sir C. A.] believ'd eat it up, or most of it; and [he] afterwards found it making these [*i.e.*, adders] its game.
>
> The Peacock is luscious meat. It dos harm to thatch, so the farmer does not love to keep them long.

In leaving the natural history portion of Allen's Common-Place Book, it will be convenient to turn aside to notice a matter which has no connection with that book.

It will be remembered that, in the year 1698, Allen contributed to the *Philosophical Transactions* some notes on the breeding of the Eel, and that these were criticised by his friend Dale,

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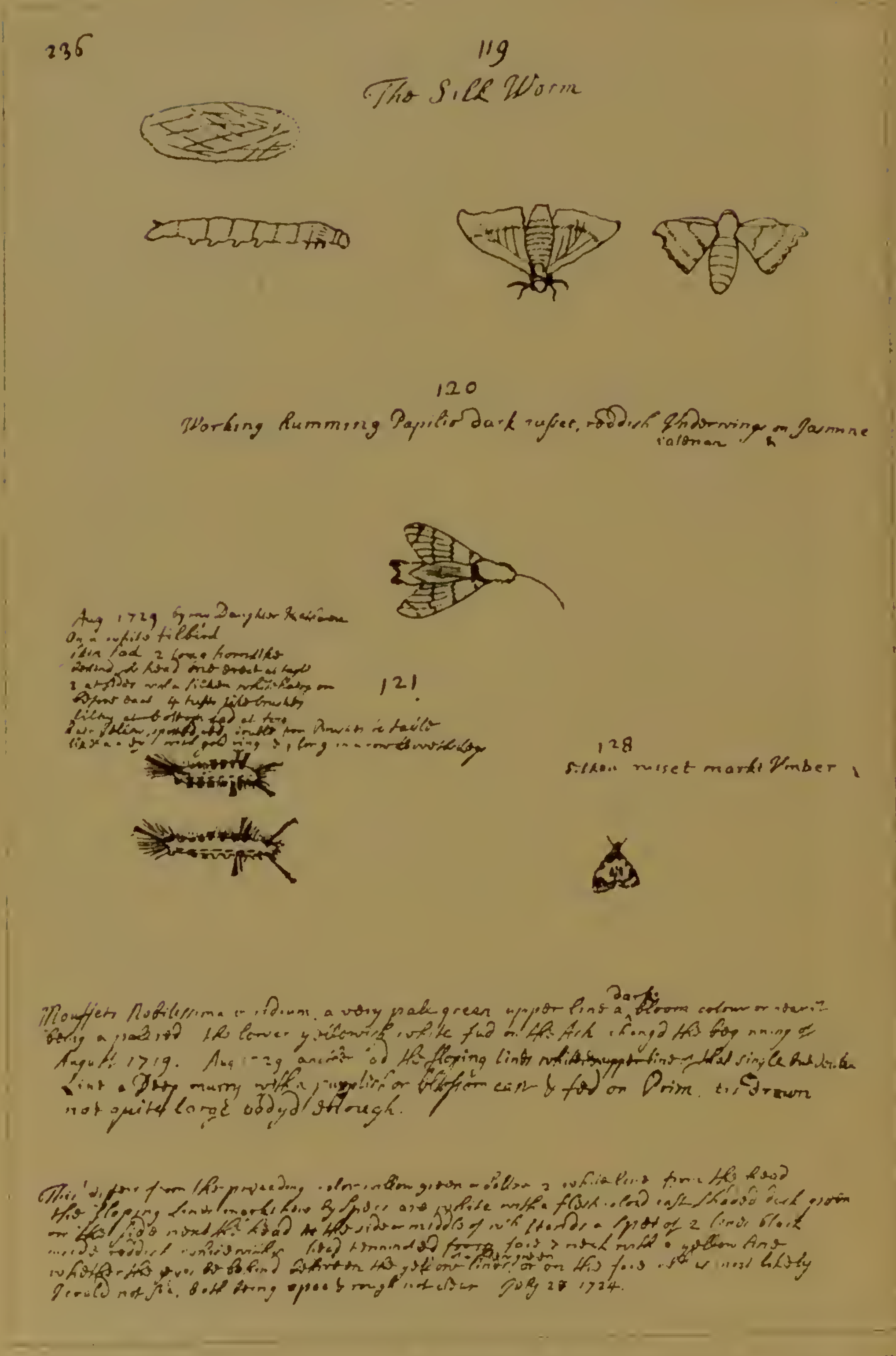
[1] See *ante* p. 153.

[2] The Rev. John Ousley became rector of Panfield on 4 Nov. 1668 and resigned in 1694, on his appointment (20 April) to Springfield Boswell, of which he was still rector in 1700, when Newcourt wrote (*Repertorium*, ii, pp. 461 and 538). He died probably in 1703, when Michael Harland was appointed rector (see Salmon, p. 381). He was one of the earliest historians of Essex, and his researches were utilised by Tindal, Holman, Salmon, Morant, and other later writers on the history of the county.



236

119

The Silk Worm

120

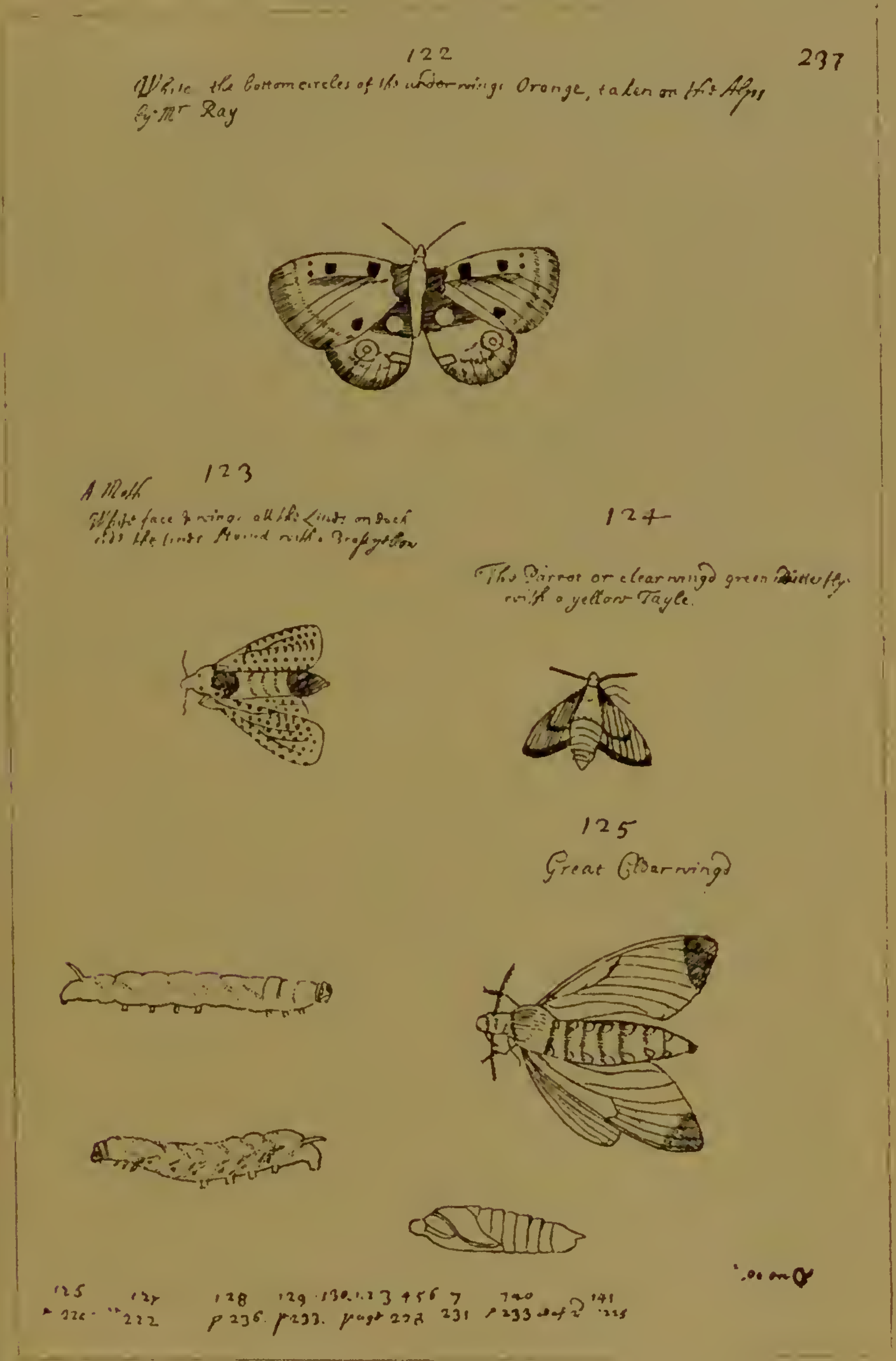
Working humming Papilio dark russet, reddish underwing on Jasmine

121

128

Silken russet markt Umber

FIG. 3.—FACSIMILES OF TWO PAGES FROM DR. BENJAMIN AL



237

122

White the bottome circles of the underwings Orange, taken on the Alps by Mr Ray

123

A Moth

White face & wings all the Lines on back & the lines Round with a Brass yellow

124

The Parrot or clear wingd green Butterfly with a yellow Tayle.

125

Great Clearwingd

125 127 128 129 130.1.2.3 4 5 6 7 140 141
p 226 222 p 236. p 233. page 232 231 p 233 & of 2 225

MON-PLACE BOOK," SHOWING DRAWINGS OF INSECTS BY HIM.

who advised him to verify and extend them.[1] Nearly thirty years elapsed before Allen acted upon this advice. Then, on 10th May 1729, he communicated to Sir Hans Sloane, Baronet, the great physician, a paper, entitled "A Further Account of the Generation of Eeles, and the varyety of it in the Worm kind, particularised in the Worm, Snail, and Oister." It was clearly intended as a communication to the Royal Society, and the manuscript of it, extending to ten folios, is still among the manuscripts belonging to the Society.[2] It is in Allen's handwriting, and is also illustrated with drawings by him. A note on it shows that it was read before the Society on the 19th June, but apparently it was never published. On the same date, there was also read before the Society another paper by Allen, giving an account of the dissection by him of a female Beaked or Bottle-nosed Whale *(Hyperoodon rostratus)*, a fairly-common species on the Bristish coasts, which was killed at Maldon on 23rd September 1717.[3] The manuscript of it, extending to eight folios, in Allen's own hand, with drawings by him, is still preserved by the Society[4] and appears never to have been published.

Returning now to Allen's Common-Place Book, we find that, at the end of it, over twenty pages (327-349) are devoted to a Calendar of Events in the History of the World, from A.D. 69 to 1736, arranged in four columns—(1) Year, (2) Weather and the like, (3) Astronomical Occurrences (comets, eclipses, &c.), and (4) Distempers and Diseases. The earlier part is, of course, a mere compilation and of no value, but the last few pages contain many notes of local interest and some are worth extracting :—

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[1] See *ante*, p. 155.

[2] Roy. Soc. MSS., xv. (2), no. 13.

[3] The specimen in question (one of the first of its species occurring on the British coasts to be properly-recorded and described) has become almost historic. Allen says of it, in his paper above-mentioned, that "it was observ'd to blunder against the supports of the bridge, so as to make a great sound, and so it did against the vessels; and, tho' it has lungs as quadrupeds [have, it]. liv'd not above an hour after it was out of the water, tho' it dyd not of bruises; and one of those taken three days before at Bradwel (and larger, being 21 foot long). that was no ways bruised in taking, liv'd not so long. This was 14 foot long from extremes." Allen adds a full description and drawings of its appearance and internal anatomy, the result of a careful dissection by himself. He expresses regret that "the head was separated by an ax a minute or two before I came. [I] not coming exact to my time.' Some twelve years later, Dale published (*Hist. Harwich and Dovercourt*, pp. 411-412 and pl. xiv. : 1730) a description and illustration of the specimen, adding. "My neighbour, Mr. Allen, was at the opening of it, to whom I am beholden for the anatomick account." Nearly sixty years later, Dale's figure was reproduced by Dr. John Hunter (*Philos. Trans.*, lxxvii., pl. xix. : 1787), and it was again reproduced by Bell half a century later (*Brit. Quadrupeds*, p. 493 : 1837). Dr. Murie also alludes to the specimen (*Sea Fisheries and Fishing Industries of the Thames Estuary*, i., p. 31 : 1903).

[4] Roy. Soc. MSS., xv. (2), no. 14. I am indebted to the Royal Society for kindly permitting access to these documents.

1665.—This was the year of the Pestilence in London; but, at Braintry and the country [generally, it came] the year following. . . . At Brentwood and Halstead, where the water underground is little and apt to fail, it did not catch, and at Coxal, tho' twice in the town, did not spread.

1680.—A malignant feaver . . . of which [my] sister Marter recovered, but [my other] sister Everard dyd.

After 1690, Allen began to record, in greater detail, the weather and the leading characteristics of the various seasons. He notes especially that all the summers from 1692 to 1698 were cold and wet. Thus, he says of that of

1693.—A strange changeable summer and winter, more [so] than ever remembered by an old man [living] at Leighs. Fermentative quality of the air layd aside; liquors [would] not work; yeast half-a-crown a quart. Hens layd no eggs; those that kept 50 hens had not 3 eggs layd in a week.

These seven bad summers came to an end in 1699, which Allen describes as follows:—

1699.—The first year of the return of warm summers. . . . The farewell change was with tempest and ended with earthquake; so this February was a hurricane and the seaventh of February a violent storm of wind from morning till night. . . . Sept. 23. At Saffron Walden [a wind-rush] blew down trees a 100 yards wide.

This year, he adds, there was great sickness among horses, so that " ye King could not get horses to go to Newmarket."

In connection with the succession of seven inclement summers, Mr. John French tells me that, many years ago, he found, to the best of his recollection, somewhere in Allen's book, a note (which neither he nor I can find now) to the effect that, during the whole of one summer, the trees at Black Notley never came out properly into leaf and there was no fruit. That something of the kind happened seems probable from the fact that, on a stone forming part of a window in Black Notley Church, there is carved a curious tree, having straight forked branches bearing round fruit, with the date " 1699," in contemporary figures, immediately below it. This may commemorate the return of warm summers in the year named, causing the trees to produce fruit and leaves once more.[1]

The Great Storm of 1703 is thus noted:—

1703.—November 26. The tempest at sea and land; the like not since Will Rufus.

1708.—Began with a mild winter; ended in a long and severely cold winter: began [at] Christmas, and froze the Thames over more fierce than that of 1683, and reacht to Rome, so as had not been in 100 years. . . . Universal colds in horses, as in K. W[illiam]'s time. Only mine and one more escaped in our Hundred, as far as I could hear, but many dyed. It was in April 1708. Feavers: I was ill March 11.

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[1] It seems not improbable that the year 1699 may have been one in which the elm trees exhausted themselves by over-seeding and produced few or no leaves till very late in the year, as in 1909 (see *ante*, pp. 73-81).

1712.—. . . The beginning of August, the time for autumnal diseases, came a universal seizure in London, chiefly of a short three-days illness, of pain in the back and bones and great heavyness. They used bleeding and sweating, with Venice treacle. So [treated, it] went off and none held longer.[1]

1714.—A wonderfull dry year and fair, and mostly mild and warm: so long a summer and summerlike weather not known in memory.

1715. —Ended in a winter that had the longest continuous hard frost since 1683. Thames froze over. Much snow.

1716.—A very cold [spring] season and north winds. No grass grew, or began to grow, till about the 8 of June.

1717.—[A very high tide, causing floods.] At Manningtree, [there were] 2 tides and half in one day.

1720.—Dec. 1. a violent tide in Holland, and Dec. 20 [another] at Harwich and that sea coast; spoyled the pastures.

1721.—Began with a mild winter and growing. Rosemary, burrage, &c. blew Jan. 1. I had a nosegay. . . .

1736.—Feb. 16. A high tide next day after full moon. . . .: Mr Copper drowned . . .: not such a tide since 130 years ago.

Among miscellaneous memoranda scattered throughout the volume, there are a few which seem worthy of passing notice:—On the title-page, there is a drawing (fig. 4) and elsewhere a description (p. 282) of "A gold coyn dug up in a field at the Motts, at Blackmore End [in Wethersfield], July 29, 1723." The coin is of the Early British period, about 100-150 B.C., having a horse on one side and what Allen took for a whale on the other.[2] Soon after, we meet with this informing

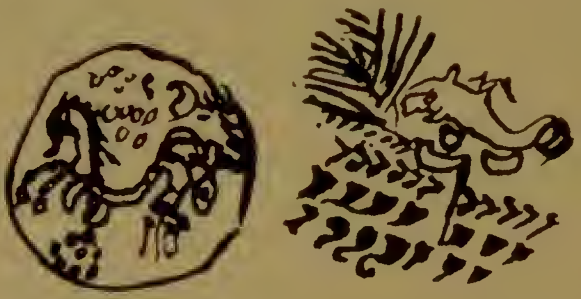

FIG. 4.—ANCIENT BRITISH GOLD COIN FOUND AT WETHERSFIELD IN 1723 (*From a drawing by Dr. Benjamin Allen*).

[1] Probably the modern influenza in some form.

[2] Through the kindness of the officers of the Coins and Medals Department of the British Museum, I am enabled to state that, though the coin is assignable to the period indicated, it is not possible to attribute it to any particular British Prince. Somewhat similar coins are figured by Evans (*Coins of the Ancient Britons*, pl. A: 1864). The device on the obverse Allen, by a curious misconception, drew as though it represented a whale springing out of the waves and rubbing its nose against a fir-tree. It really represents, in a debased and conventional manner, a princely bust, with flowing locks of hair restrained by a jewelled diadem and band!

observation (p. 9) :—"Dogs that [did] eat of a hog dying mad dyed mad in our parish." Then there are entries relating to "The Philosopher's Stone" (p. 112), and "Remarks on Divine Things" (pp. 199-206); while nearly fifty pages (278-326) near the end are filled with notes (apparently copied from books, and of no special interest), entitled "Phrases, Thoughts, and Vivid Expressions," "Gentele and Sensible Phrases from the *Spectator*," "A Remedy against Distraction leading to Suicide," "Of the Wind," "Of Logic," and so on: while they include also extracts from the *Philosophical Transactions* and from Esop's *Fables*, as well as Notes on Farming.

After about the year 1727, Allen appears to have retired from active practice; for few of his notes on cases and his observations on natural occurrences bear a later date than this. Nevertheless, he continued to make occasional entries in his Common-Place Book up to within a few months of his death in 1738. Thus, we have an entry (p. 196) of a recipe to kill bugs, said to be copied from the *Gentleman's Magazine* for 1736[1]. The latest entry I have been able to discover (p. 167) is dated November 1737, three months only before his death.[2]

In all probability, Allen was in bad health during the last two years of his life. This surmise is supported by the fact that his will, noticed hereafter, was made in January 1736-7. He died thirteen months later.

When Mr. Fitch wrote in 1890, neither the date of Allen's death nor the place of his burial was known. For our knowledge of these, we are indebted to the keen eye-sight of the Rev. J. W. Kenworthy. One day, some years ago, after attending a funeral at Black Notley, Mr. Kenworthy was standing in the church-yard when he caught sight of the name Benjamin Allen on the top-slab of a fine altar-tomb standing close to the church-porch. The inscription of which the name formed part was much obscured by a growth of lichen and moss; but, after some trouble, Mr. Kenworthy succeeded in deciphering sufficient of it to learn that it recorded the death of Dr. Benjamin Allen, of Braintree, on the 28th February 1737-8, at the age of seventy-five years. A reference to the Parish Registers showed that he had been buried on the 6 March—just a week after his death.[1] Recently, I visited Black Notley and succeeded, after a good deal of trouble, in reading the whole inscription. To do this, I was obliged to borrow scrubbing brushes and pails of water from the adjacent Hall and to give the slab a thorough cleaning. The inscription reads:—

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[1] I cannot trace this recipe by the reference given, which is clearly erroneous.

[2] An entry (p. 148) apparently dated 1748 must be either a slip of the pen or made by another hand, unless it was meant for 1718.

Here lieth interred the body of
BENJAMIN ALLEN,
late of Braintree, in this County,
Batchelor in Physick,
who married Katherine the Daughter
of Joshua Draper, of Braintree
aforesaid, also Batchelor in Physick,
By whom he had two Sons and four
Daughters.
As to his Caracter, it may suffice to say
that his Learning, Industry, and
Integrity engaged the attention of the
Judicious & Discerning Part of Mankind.
He departed this Life the 28th day of
February 1737, aged 75 years.

Above the inscription is graven an elaborate achievement of arms—a shield bearing two coats impaled, with helmet, crest, and mantling. Unfortunately, the dexter coat (Allen's) is so defaced, owing to exposure to the weather, that the charges on it are quite undecipherable. It gives us, therefore, no clue as to which of the many armigerous families of Allen the doctor belonged to. The sinister coat is less defaced, and one is able to make out that it consists of five bendlets and something on a chief. It represented, no doubt, the coat of Draper of London (granted 1618)[2], to which, doubtless, Allen's wife belonged. The crest (which would be, of course, that of Allen) appears to consist of foliage or flames.[3]

The accompanying photograph of Allen's tomb (fig. 5) was taken for Mr. Kenworthy, to whom I am indebted for use of it. It is of interest as showing that, however much the two friends, Ray and Allen, had been divided in the latter part of their lives, at the end they were united and were buried within a few feet of one another; for the altar-tomb almost directly in front of the church-porch is Allen's: the tall cenotaph, with railings around it, just at the side of the porch, is Ray's.

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[1] The entry reads:—1737-8, "Doctor Allen, of Braintree, [buried] March ye 6th."

[2] Gules, four bendlets or; on a chief per fess argent and ermine, three fleurs de-lys sable.

[3] Possibly it may be that assigned to John Alleyn, founder of Dulwich College—an arm, couped at the elbow and erect, holding a human heart, the arm issuing out of flames of fire proper.

Allen's burial at Black Notley, instead of at Braintree, where he lived, was in accordance with directions left in his will. The fact also that he bequeathed land in Black Notley and that he left money for the relief of its poor strengthens the surmise, already expressed,[1] that he had some old family connection with the parish.

Allen's will,[2] made rather more that a year before his death, begins as follows:—

> In the name of God, Amen. I, Benjamin Allen, of Braintree, in Essex, Physician, being (thank God) sound in understanding and memory, [also] sound in mind, do ordain, declare, and make this my last Will and Testament.

He bequeaths his "body to be interred in the church-yard of Black Notley, not within two rods of the hedge, [and to be] covered with a marble stone, with a small inscription to signify who lys there." As to his funeral expenses, he says: "I desire and will [that they] may be as small as possible, desiring only good, willing, and loving friends to attend my corps to buryall, without pomp or anything unnecessary." To his sister Sarah, wife of John Parker, of Lambeth, he bequeaths £40 for her sole use, as well as £5 to buy "mourning cloths" and his gold ring. To the Rev. John Harrison, husband of his daughter Elizabeth, he bequeaths £100 and a balance owing under her marriage settlement; thus making (as he estimates) the portion of each of his children approximately equal, all things considered. To the poor of Black Notley, he leaves twenty shillings. The residue of his property he leaves to his three unmarried daughters (Katherine, Mary, and Lydia) in equal shares. He directs that his copyhold estate, Fullwood Street Farm, in Fairstead, shall be sold; but that his land in Black Notley, his houses against the Horn Inn in Braintree, and his piece of ground call Stubshots or Abbot's Park, shall all be kept in the family.

But the most interesting bequest made by Allen relates to the disposal of the large manuscript book already mentioned many times, and of certain other note-books which have now disappeared. It runs thus:—

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[1] See *ante*, p. 148.

[2] Made 12 Jan 1736-7; witnessed by Jas. Picknett, Jos. Pawsey, and Jos. Wells (his mark); executors named, his two elder unmarried daughters (Katherine and Mary); proved 22 July 1738, by the last-named executor (P.C.C, 168 Broderipp).

> My Note Books or Manuscripts of Medicine and private Methods of Cure, disclosing much of the Practise of Physick (principally the two vellum folios numbered One & Two, in letters at length, with two small thin quarto receipt books), as a separate matter from Goods, I ordain not to be sold, but preserved in some sufficient hand of one of the Family in the Practise of Physick or Pharmacy, under the over-sight of my Executors and their Executors, for the use and benefit of my Family hereafter, to see they be secure from losing or making away or parting with any way out of their custody; but so as to allow [my] Niece Martin's Son or [my] Nephew William Marter's son, if either practise Physick, to look into and transcribe any receipt for their use, without removing or taking the books into their custody, if either of them request and desire to copy any receipt; and [this] to be allowed only to those two sons of my niece Martin and William Marter now already born.

This sufficiently shows the high value Allen set upon the books.

The volume noticed above cannot be other than one of the "two vellum folios" mentioned, though it does not now bear either of the numbers stated. It would be a matter of great interest if we could discover the fellow volume[1] and also the "two small thin quarto receipt books;" but one fears they have now disappeared beyond hope of recovery.

Dr. Allen had, by his wife Katherine (*née* Draper: died 1727[2]), six children (two sons, both of whom died young, and four daughters). Some of these have been noticed already, but it may be convenient to enumerate all here, as follows:[3]

(1) Thomas, baptised 12 Aug. 1697[4]; died 23, and buried 26 July 1713, aged 16.

(2) Benjamin, born 20 Mar. and baptised 28 Mar. 1698-9[5]; buried 20 May, 1724, aged 25.

(3) Katherine, born 2 July ("at 17 m. past 12 in the morning") and baptised 11 July 1701; died (unmarried) 17—?

(4) Mary, born 23 Nov. ("a little before 9 at night") and baptised 4 Dec. 1702; died (unmarried) 1747, aged 45.

(5) Elizabeth, born 3 Dec. and baptised 26th Dec. 1704; married Rev. John Harrison, of (?) Braintree; died (?) 1759.

(6) Lydia, born —?; died (unmarried) 1744.

One other thing in connection with Allen must not be overlooked—namely, the fact that Dickens has introduced him as one of the characters in *Pickwick*. In that work, Mr. Benjamin

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[1] A reference to something "in the other book" occurs on p. 214.

[2] The Braintree Registers record that "Katherine Allen, wife of Mr. Benjamin [Allen was] buried March 16," 1727.

[3] The dates are taken chiefly from the Braintree Registers. Mr. Fitch ascribes to Allen several other sons and daughters; but, from the inscription on his tomb, it is clear they were not his.

[4] Mrs. Ray was godmother (see *ante*, p. 150).

[5] Sir George Alleyn, Bart., was one of his godfathers.

Allen and Mr. Bob Sawyer appear[1] as the roysterous pair of medical students—"sawbones in trainin'," Mr. Weller styled them—whose acquaintance Mr. Pickwick made at Muggleton on Christmas morning. Allen was not an inviting character, as portrayed by Dickens, who describes him as

> a coarse, stout, thick-set young man, with black hair, cut rather short, and a white face, cut rather long. He was embellished with spectacles, and wore a white neckerchief. Below his single-breasted black surtout, which was buttoned up to his chin, appeared the usual number of pepper-and-salt coloured legs, terminating in a pair of imperfectly-polished boots. Although his coat was short in the sleeves, it disclosed no vestige of a linen wristband; and, although there was quite enough of his face to admit of the encroachment of a shirt collar, it was not graced by the smallest approach to that appendage. He presented altogether rather a mildewy appearance and emitted a fragrant odour of full-flavoured Cubas.

Let us hope that this description was purely imaginary. One cannot suppose that it fitted, in any way, our worthy Braintree doctor, the friend of Ray.

Yet that Dr. Benjamin Allen, of Braintree, was the original whom Dickens had in mind seems certain. It is impossible to suppose that Dickens's use of the name in question as that of a medical man can have been a mere coincidence. One is driven, therefore, to conclude that Dickens had heard, in some way, of Dr. Benjamin Allen, of Braintree, as he very well might have done through seeing his name on the title page of one or other of Allen's published works. The fact that he did so, if not of great importance, is at least interesting.

No portrait of Allen exists, so far as I have been able to ascertain.

THE ESSEX FIELD CLUB—REPORTS OF MEETINGS.

THE 278th ORDINARY MEETING.

SATURDAY, 29TH JANUARY 1910.

THE Third Meeting of the Winter Session was held in the Physical Lecture Theatre of the Municipal Technical Institute, Stratford, at 6 o'clock, Mr. John Avery, V.P., in the chair.

New Members.—The following were elected members:—

Somerville Hastings, F.R.C.S., &c., 51, *Cavendish Street, Portland Place, W.*

Miss J. S. Lister, *Leytonstone.*

Frank B. Skerrett, M.D. (*School Medical Officer, West Ham*), 37, *Windsor Road, Forest Gate, E.*

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[1] *Pickwick*, chap. 30. (1836).

Exhibits.—Mr. Miller Christy, F.L.S., exhibited some specimens of the Fresh-water Mussel, *Unio pictorum*, from the lake in Riffham's Park, Danbury (August 1909). He said that *U. pictorum* was normally bright green in colour. The present specimens were much larger than usual and darker in colour. This peculiar type of the mollusc was met with also in lakes in some other parts of Essex, and might perhaps be occasioned by an abundance of food.

Mr. Christy also showed a specimen of the Great Crested Grebe (*Podiceps cristatus*) from Heybridge, presented to the Club's Museum by Dr. E. Bertram Smith, of Stisted. The bird was probably a young male in winter plumage, the crest not being so pronounced as it would be in summer. Until recently, the bird was not known to breed in Essex; but, within the last 10 or 15 years, it has become more numerous, and latterly it has bred on the lakes in Weald Hall Park and Gosfield Park. Mr. Christy added that those members who were present at the meeting at the Walthamstow Reservoirs on 26th June last (*ante*, p. 105) would remember seeing one of these Grebes sitting on her nest in the "island" of the lake. The Crested Grebe would no doubt become commoner owing to the protection afforded by the Wild Bird Protection Act.

"Fossil Horse" at Bishop's Stortford.—Mr. E. T. Newton, F.R.S., exhibited an engraving from the *Illustrated London News*, of 5th June 1909, of the skeleton of the so-called "Fossil Horse" found at Bishop's Stortford, and read an extended memorandum on the subject, together with a comparison of the three types of horses of the present day living in Europe and Asia. He had come to the conclusion that this skeleton presented no characters which would indicate its being of Pre-historic age: on the contrary, its agreement with the bones of modern horses points to a much more recent origin (see *ante*, pp. 132-136).

Mr. Dalton, F.G.S., made some remarks on the subject, and pointed out that, inasmuch as the whole skeleton had been preserved *in situ*, it was improbable it was naturally deposited.

Mr. Alexander J. Hogg referred to an abnormal horse which he had seen, many years ago, at Ingatestone (see *post*, p. 191).

A vote of thanks was passed to Mr. Newton for his communication.

Boring-tools for Making Wooden Water-Pipes.—Mr. W. Cole exhibited a set of the Boring-Tools formerly used for making Wooden Pipes for the conveyance of water from the works to the consumer. These tools had been purchased by the kind aid of Mr. Fell Christy, of Chelmsford. It was stated that the irons had been in the possession of one family for three or four generations and came from near Burnham-on-Crouch.

Mr. Cole showed a lantern-slide copied from Evelyn's *Sylva* (reproduced in the ESSEX NATURALIST, vol. xiii., page 135), demonstrating the mode of employing the tools in the making of the pipes; but, in this picture, a water mill was shown driving the borer; whereas the implements exhibited must have been revolved by hand labour. The tools would be placed in the Forest Museum, alongside the fine example of a Wooden Water-pipe presented some time ago by our member, Mr. J. M. Wood, C.E. (see engraving of it in *E. N.* xiii., p. 65).

Forest Lopping Axe.—Mr. Ernest Linder, B.Sc., sent for exhibition and presentation to the Forest Museum the original Axe used by the Willingales of Loughton in asserting the rights of Lopping on the Forest on the 11th of November in each year (see Fisher's *Epping Forest*, p. 247).

A vote of thanks was passed to Mr. Linder for his interesting gift.